

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/713,242	SHIELDS ET AL.	
	Examiner Davienne Monbleau	Art Unit 2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to the amendment filed on 8/8/05.
2.  The allowed claim(s) is/are 1-4, 17-34, 56-58 and 60-67.
3.  The drawings filed on 21 May 2004 are accepted by the Examiner.
4.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All    b)  Some\*    c)  None    of the:
    1.  Certified copies of the priority documents have been received.
    2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

#### Attachment(s)

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftsperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_.
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application (PTO-152)
6.  Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.

**EXAMINER'S AMENDMENT AND STATEMENT OF REASONS FOR ALLOWANCE**

***Response to Amendment***

The amendment filed on 8/8/05 has been entered. Claims 1, 31, 63, and 65 have been amended. Claim 35 is withdrawn from consideration. New Claims 66 and 67 have been added. Claims 1-4, 17-35, 56-58, and 60-67 are pending.

Applicant's arguments regarding Claims 1-4, 17-34, 56-58, and 60-67, filed 8/8/05, have been carefully and fully considered and been found persuasive.

***Election/Restrictions – Examiner's Amendment***

This application is in condition for allowance except for the presence of claim 35 to an invention non-elected without traverse. Accordingly, claim 35 has been cancelled.

***Allowable Subject Matter***

Claims 1-4, 17-34, 56-58, and 60-67 are allowed.

The following is an examiner's statement of reasons for allowance:

Regarding Claims 1-4, 17-34, and 56, the cited prior art of record does not teach or fairly suggest a photon source comprising, along with the other claimed features, a quantum dot full encapsulated between two layers.

Regarding Claims 57, 58, and 60-62, the cited prior art of record does not teach or fairly suggest a photon source comprising, along with the other claimed features, supply means comprising a source of pulsed incident radiation configured to resonantly excite a predetermined number of carriers into the first and second energy levels respectively to allow recombination of carriers in said quantum dot to emit at least one photon.

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Regarding Claim 63, the cited prior art of record does not teach or fairly suggest a photon source comprising, along with the other claimed features, supply means comprising a source of continuous incident radiation for supplying carriers to the energy levels and a modulating electrical bias unit configured to vary the transition energies of the quantum dot.

Regarding Claims 64 and 66, the cited prior art of record does not teach or fairly suggest a photon source comprising, along with the other claimed features, a plurality of quantum dots having a distribution of transition energies such that a level of the first confined energy levels and/or the second confined energy levels differs among the quantum dots.

Regarding Claims 65 and 67, the cited prior art of record does not teach or fairly suggest a photon source comprising, along with the other claimed features, a plurality of quantum dots having a distribution of transition energies such that a level of the first confined energy levels and/or the second confined energy levels differs among the quantum dots.

***Conclusion***

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Davienne Monbleau whose telephone number is 571-272-1945. The examiner can normally be reached on Mon-Fri 9:00 am to 5:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Darienne Menbleau  
DNM



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